

I CLAIM:

1. An improved color-image error diffusion process for use in conjunction with the operation of a multi-level, halftone, color-image output device comprising

5 performing output-device-dependent color error diffusion on color-image input data utilizing a halftone, output-device-dependent color palette containing output-device-dependent output color values, and

with respect to the selection for pixel outputting of a pixel utilizing one of the output colors in the palette, and in relation to infeeding of that pixel to the output device
10 for outputting, applying a predetermined, dot-gain correction curve which corrects the infeed intensity value of the pixel in accordance with (a) selected output color for the pixel, and (b) assessment of the pixel in terms of its association with a predetermined neighborhood pattern of adjacent pixels.

15 2. The process of claim 1, wherein said performing is conducted in relation to a palette whose color values are based upon compromise values that are determined, color-for-color, by a method involving averaging of (a) measured device output color values with (b) subjectively chosen color output values.

20 3. The process of claim 2, wherein said performing, with regard to pixel output color selection, is more specifically conducted utilizing selected arithmetic (plus/minus) sign weighting in relation to the positive and negative color chrominance values associated with each pixel which is to be output.

4. The process of claim 1, wherein said performing, with regard to pixel output color selection, is more specifically conducted utilizing selected arithmetic (plus/minus) sign weighting in relation to the positive and negative color chrominance values associated with each pixel which is to be output.

5. The process of claim 1, wherein said performing involves effecting a color-space conversion of predecessor input color-image pixel data from one color space which is characterized by two-dimensional chrominance space with arithmetically-signed pixel chrominance values distributed in different quadrants, depending on signage, in that one color space, to another color space which is also characterized by two-dimensional chrominance space, and wherein pixel chrominance values are also arithmetically-signed and distributed in different quadrants, also depending on arithmetic signage, in that other color space, and wherein, further, the selection of successor output pixel color values resulting from said performing is based upon a same-quadrant priority approach which favors the selection of specific output pixel values having two-dimensional chrominance arithmetic signage that matches the related two-dimensional chrominance arithmetic signage which is associated with the predecessor input pixel chrominance-value signage.

6. The process of claim 5, wherein said performing is conducted in relation to a palette whose color values are based upon compromise values that are determined, color-for-color, by a method involving averaging of (a) measured device output color
5 values with (b) subjectively chosen color output values.